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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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			EXAMINER MARCHESCHI, MICHAEL A	
			ART UNIT 1755	PAPER NUMBER

DATE MAILED: 07/19/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/669,183

Applicant(s)

COOK ET AL.

Examiner

Michael A Marcheschi

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13 is/are pending in the application.
- 4a) Of the above claim(s) 6-13 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☒ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 9/23/03.
- 4) ☒ Interview Summary (PTO-413)
Paper No(s)/Mail Date. 7/13/04.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

Restriction to one of the following inventions is required under 35 U.S.C. 121:

- I. Claims 1-5, drawn to an abrasive alloy, classified in class 51, subclass 307.
- II. Claims 6-12, drawn to a method of making an abrasive alloy, classified in class 51, subclass 293.
- III. Claim 13, drawn to a ceramic, classified in class 501, subclass 127.

The inventions are distinct, each from the other because of the following reasons:

Inventions I and II are related as process of making and product made. The inventions are distinct if either or both of the following can be shown: (1) that the process as claimed can be used to make other and materially different product or (2) that the product as claimed can be made by another and materially different process (MPEP § 806.05(f)). In the instant case, the process as claimed can be used to make other and materially different product, such as a flower pot.

Inventions I and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different modes of operation, different functions, and different effects.

Inventions II and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions have different modes of operation, different functions, and different effects.

Because these inventions are distinct for the reasons given above and (1) have acquired a separate status in the art as shown by their different classification, (2) have acquired a separate

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status in the art because of their recognized divergent subject matter, and (3) the search required for Groups II and III is not required for Group I, restriction for examination purposes as indicated is proper.

During a telephone conversation with Ed Sease on 7/13/04 a provisional election was made without traverse to prosecute the invention of Group I, claims 1-5. Affirmation of this election must be made by applicant in replying to this Office action. Claims 6-13 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Applicant is reminded that upon the cancellation of claims to a non-elected invention, the inventorship must be amended in compliance with 37 CFR 1.48(b) if one or more of the currently named inventors is no longer an inventor of at least one claim remaining in the application. Any amendment of inventorship must be accompanied by a request under 37 CFR 1.48(b) and by the fee required under 37 CFR 1.17(i).

The examiner has required restriction between product and process claims. Where applicant elects claims directed to the **product**, and a product claim is subsequently found allowable, withdrawn **process** claims that depend from or otherwise include all the limitations of the allowable product claim will be rejoined in accordance with the provisions of MPEP § 821.04. **Process claims that depend from or otherwise include all the limitations of the patentable product** will be entered as a matter of right if the amendment is presented prior to final rejection or allowance, whichever is earlier. Amendments submitted after final rejection are governed by 37 CFR 1.116; amendments submitted after allowance are governed by 37 CFR 1.312.

In the event of rejoinder, the requirement for restriction between the product claims and the rejoined process claims will be withdrawn, and the rejoined process claims will be fully examined for patentability in accordance with 37 CFR 1.104. Thus, to be allowable, the rejoined claims must meet all criteria for patentability including the requirements of 35 U.S.C. 101, 102, 103, and 112. Until an elected product claim is found allowable, an otherwise proper restriction requirement between product claims and process claims may be maintained. Withdrawn process claims that are not commensurate in scope with an allowed product claim will not be rejoined. See "Guidance on Treatment of Product and Process Claims in light of *In re Ochiai*, *In re Brouwer* and 35 U.S.C. § 103(b)," 1184 O.G. 86 (March 26, 1996). Additionally, in order to

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retain the right to rejoinder in accordance with the above policy, Applicant is advised that the process claims should be amended during prosecution either to maintain dependency on the product claims or to otherwise include the limitations of the product claims. **Failure to do so may result in a loss of the right to rejoinder.** Further, note that the prohibition against double patenting rejections of 35 U.S.C. 121 does not apply where the restriction requirement is withdrawn by the examiner before the patent issues. See MPEP § 804.01.

The oath or declaration is defective. A new oath or declaration in compliance with 37 CFR 1.67(a) identifying this application by application number and filing date is required. See MPEP §§ 602.01 and 602.02.

The oath or declaration is defective because it does not identify the provisional application which priority is based on.

The disclosure is objected to because of the following informalities:

On page 4, line 5, applicants set forth " Al_{12}O_3 " and this should be " Al_2O_3 ". Appropriate correction is required.

Claims 3-5 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 3 is indefinite as to the way it is drafted because it is not defined in a clear and concise manner. This claim should be rewritten (**i.e. The abrasive..., wherein the ductile binder phase is present in an amount of about 10 vol. % to about 20 vol. %).**

Claim 4 is indefinite as to the way it is drafted because it is not defined in a clear and concise manner. Is this claim defining the amount of Mn in the alloy? If so, the claim should be

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rewritten (i.e. The abrasive..., wherein in the Co-Mn alloy, Mn is present in an amount of between 5 atomic % to 45 atomic %.).

Claim 5 is indefinite as to the way it is drafted because it is not defined in a clear and concise manner. Is this claim defining the amount of Mn in the alloy? If so, the claim should be rewritten (i.e. The abrasive..., wherein in the Co-Mn alloy, Mn is present in an amount of between 17 atomic % to 38 atomic %.).

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Saitoh et al.

Saitoh et al. teach in the abstract, column 3, lines 37-52 and the claims a sintered alloy which comprises 75-95 wt. percent a hard phase (TiC, etc.) and the balance a binder phase which can comprise a mixture (i.e. alloy) of at least 50 vol. percent Co and the remainder Mn.

The claimed invention is anticipated by the reference because said reference teaches an alloy that comprises a hard phase and an alloy phase comprising the claimed materials. Although the reference implies the amount of the binder phase in wt. percent, it is the examiners position that, when converted to volume percent, this amount inherently encompasses the claimed amount absent evidence to the contrary. In the alternative, no patentable distinction is seen to exist between the reference and the claimed invention in the absence of any evidence showing the contrary.

Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saitoh et al.

Although this reference fails to teach the atomic percents of the Mn in the Co-Mn alloy, it is the examiners position that the reference teaching of a binder alloy comprising **at least** 50 vol. percent Co and the remainder Mn, when converted to atomic percent, encompasses and therefore makes obvious the claimed amount absent evidence to the contrary. In the alternative, the reference teaches that Mn is added to the binder and the broad interpretation of no specific amounts suggests a broad range. It is therefore the examiners position that since the reference fails to mention any specific amount (criticality), this (the absence of any such limitation) constitutes a broad teaching of amounts, as long as the binder mixture (alloy) is obtained. In view of this, it can be reasonably interpreted that the claimed amount is encompassed by the broad teachings according to this reference in absence of any evidence showing the contrary (criticality). In addition, one skilled in the art would have known the amount required to produce an alloy having the most bond strength when used in combination with a hard phase. It is the examiners position that the claimed amounts would have proved to meet this requirement

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through routine experimentation and optimization of the binder alloy in the absence of any evidence showing the contrary.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Lindholm.

Lindholm teaches in column 3 lines 15-44 and the claims, a sintered alloy which comprises 55-95 wt. percent a hard phase (WC, etc.) and 5-45 vol. percent of a binder phase which can comprise a mixture (i.e. alloy) of at most 30 vol. percent Co and at most 10 vol. percent Mn.

The claimed invention is anticipated by the reference because said reference teaches an alloy that comprises a hard phase and an alloy phase comprising the claimed materials. In the alternative, no patentable distinction is seen to exist between the reference and the claimed invention in the absence of any evidence showing the contrary.

Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lindholm

Although this reference fails to teach the atomic percents of the Mn in the Co-Mn alloy, it is the examiners position that the reference teaching of a binder alloy comprising at most 30 vol. percent Co and at most 10 vol. percent Mn, when converted to atomic percent, encompasses and therefore makes obvious the claimed amount absent evidence to the contrary.

Claims 1 and 3 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Yamazaki et al.

Yamazaki et al. teach in the abstract, column 4, lines 54-59, column 5, lines 24-25 and claim 1, a sintered alloy which comprises 35-95 wt. percent of a hard phase and the balance a binder phase which can comprise a mixture (i.e. alloy) 0.1 to 8 wt. percent Mn and 2-10 wt. percent Co.

The claimed invention is anticipated by the reference because said reference teaches an alloy that comprises a hard phase and an alloy phase comprising the claimed materials. Although the reference implies the amount of the binder phase in wt. percent, it is the examiners position that, when converted to volume percent, this amount inherently encompasses the claimed amount absent evidence to the contrary. In the alternative, no patentable distinction is seen to exist between the reference and the claimed invention in the absence of any evidence showing the contrary.

Claims 4-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al.

Although this reference fails to teach the atomic percents of the Mn in the Co-Mn alloy, it is the examiners position that the reference teaching of a binder alloy comprising 0.1 to 8 wt. percent Mn and 2-10 wt. percent Co, when converted to atomic percent, encompasses and therefore makes obvious the claimed amount absent evidence to the contrary.

In all of the rejections based on (1) Saitoh et al., (2) Lindholm and (3) Yamazaki et al., as defined above, the examiner acknowledges that the references are not literally directed to an abrasive alloy, however, applicants are claiming a “material” which the

intended use does not carry any weight to the composition (see *In re Thuau* 57 USPQ 324 (CCPA 1942). Any material possesses a property such that it may be used for a purpose. In addition, irrespective of what the materials are called, the compositions are the same, thus no distinction is seen to exist. In addition, the *preamble limitation is of no consequence when a composition is the same. Ultimate intended utility does not make a composition patentable. See In re Pearson, 181 U.S.P.Q. 6411. Finally, all the references are directed to alloys and the broad interpretation of this encompasses abrasive alloys especially since the compositions are the same.*

Claims 1-5 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Kear et al.

Kear et al. teach in the column 3, line 55-column 4, line 5 and the claims, a composite which comprises a superhard phase (BN), a hard phase (WC, etc. or other hard phase materials) and the balance a binder phase which can comprise a mixture (i.e. alloy) of Co and Mn. Claim 6 suggests that the binder phase can be present in an amount of 3-50 vol. percent.

Although the reference does not **literally** define the amount of the Co-Mn binder phase, the reference clearly teaches in claim 6 that the binder phase (Co) is present in an amount of 3-50 vol. percent. Although this amount is defined for a specific binder phase, it is the examiners position that the reference, as a whole, suggests to the skilled artisan that the binder phase content (broad disclosure of the reference) is the content of any binder phase disclosed and is not limited to the specific one disclosed in this claim. This is apparent from example 9. In view of this, the claimed Mn-Co binder phase content is obvious. Although this reference fails to teach

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the atomic percents of the Mn in the Co-Mn alloy, it is the examiners position that since the reference teaches that Mn is added to the binder, the broad interpretation of no specific amounts suggests a broad range. It is therefore the examiners position that since the reference fails to mention any specific amount (criticality), this (the absence of any such limitation) constitutes a broad teaching of amounts, as long as the binder mixture (alloy) is obtained. In view of this, it can be reasonably interpreted that the claimed amount is encompassed by the broad teachings according to this reference in absence of any evidence showing the contrary (criticality). In addition, one skilled in the art would have known the amount required to produce an alloy having the most bond strength when used in combination with a hard phase. It is the examiners position that the claimed amounts would have proved to meet this requirement through routine experimentation and optimization of the binder alloy in the absence of any evidence showing the contrary.

In the rejection, the examiner acknowledges that the reference is not literally directed to an abrasive alloy, however, applicants are claiming a “material” which the intended use does not carry any weight to the composition (see *In re Thuau* 57 USPQ 324 (CCPA 1942). Any material possesses a property such that it may be used for a purpose. In addition, irrespective of what the material is called, the composition is the same, thus no distinction is seen to exist. In addition, the *preamble limitation is of no consequence when a composition is the same. Ultimate intended utility does not make a composition patentable. See In re Pearson, 181 U.S.P.Q. 6412.*

In view of the teachings as set forth above, it is the examiners position that the references reasonably teach or suggest the limitations of the rejected claims.

"A reference is good not only for what it teaches but also for what one of ordinary skill might reasonably infer from the teachings. *In re Opprecht* 12 USPQ 2d 1235, 1236 (CAFC 1989); *In re Bode* USPQ 12; *In re Lamberti* 192 USPQ 278; *In re Bozek* 163 USPQ 545, 549 (CCPA 1969); *In re Van Mater* 144 USPQ 421; *In re Jacoby* 135 USPQ 317; *In re LeGrice* 133 USPQ 365; *In re Preda* 159 USPQ 342 (CCPA 1968)". In addition, "A reference can be used for all it realistically teaches and is not limited to the disclosure in its preferred embodiments" See *In re Van Marter*, 144 USPQ 421.

"A generic disclosure renders a claimed species prima facie obvious. *Ex parte George* 21 USPQ 2d 1057, 1060 (BPAI 1991); *In re Woodruff* 16 USPQ 2d 1934; *Merk & Co. v. Biocraft Lab. Inc.* 10 USPQ 2d 1843 (Fed. Cir. 1983); *In re Susi* 169 USPQ 423 (CCPA 1971)".

The subject matter as a whole would have been obvious to one having ordinary skill in the art at the time the invention was made to have selected the overlapping portion of the range disclosed by the reference because overlapping ranges have been held to be a prima facie case of obviousness, see *In re Malagari*, 182 U.S.P.Q. 549; *In re Wertheim* 191 USPQ 90 (CCPA 1976)".

Evidence of unexpected results must be clear and convincing. *In re Lohr* 137 USPQ 548. Evidence of unexpected results must be commensurate in scope with the subject matter claimed. *In re Linder* 173 USPQ 356.

The references cited on the 1449 have been reviewed by the examiner and are considered to be art of interest since they are cumulative to or less than the art relied upon in the above rejections.

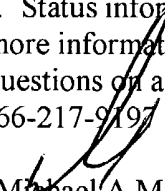
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Any foreign language documents submitted by applicant has been considered to the extent of the short explanation of significance, English abstract or English equivalent, if appropriate.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael A Marcheschi whose telephone number is (571) 272-1374. The examiner can normally be reached on M-F (8:00-5:30) First Friday Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark L Bell can be reached on (571) 272-1362. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Michael A Marcheschi
Primary Examiner
Art Unit 1755